Claims

We claim:

1. A method for configuring a graphical program to publish or subscribe to a data target or data source, respectively, the method comprising:

receiving user input specifying at least one of a data source or data target;

automatically configuring the graphical program to perform at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

2. The method of claim 1, wherein said automatically configuring is performed in response to the user input specifying at least one of a data source or data target.

3. The method of claim 1, wherein said automatically configuring comprises programmatically configuring the graphical program.

4. The method of claim 1, wherein the graphical program is configured without user input.

5. The method of claim 1, wherein the graphical program includes a plurality of connected nodes, wherein the connected nodes visually represent functionality of the graphical program;

wherein said automatically configuring comprises automatically configuring one or more of the nodes to perform at least one of the following during program execution: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

6. The method of claim 1, wherein the graphical program includes a plurality of connected nodes, wherein the connected nodes visually represent functionality of the graphical program;

the method further comprising:

receiving user input selecting a first node of the plurality of nodes;

wherein said automatically configuring comprises automatically configuring the first node to programmatically perform at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

7. The method of claim 1, wherein said automatically configuring comprises automatically creating and storing a data structure comprising source/ target information, wherein the source/ target information is useable during execution of the graphical program to programmatically perform at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

8. The method of claim 1, wherein said automatically configuring comprises automatically including one or more nodes in a block diagram of the graphical program, wherein the one or more nodes are operable to perform one or more of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

9. The method of claim 8, wherein the one or more nodes included in the block diagram comprises a DataSocket node.

10. The method of claim 8, wherein said automatically including one or more nodes in the block diagram comprises automatically including at least two nodes in the block diagram, the method further comprising:

automatically connecting the at least two nodes such that the at least two connected nodes are operable to perform at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target;

wherein the at least two connected nodes visually indicate performance of the at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

11. The method of claim 1, further comprising:

executing the graphical program after said automatically configuring;

the graphical program programmatically performing at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

12. The method of claim 1, wherein said receiving user input specifying at least one of a data source or data target comprises receiving user input specifying a uniform resource locator (URL) of the data source and/or data target.

13. The method of claim 12, further comprising:

automatically generating the URL of the data source and/or data target.

14. The method of claim 1, wherein said receiving user input specifying at least one of a data source or data target comprises receiving user input in response to a drag-and-drop user interface technique performed by the user.

15. The method of claim 1, wherein said receiving user input specifying at least one of a data source or data target comprises receiving user input selected from one of: 1) a menu; 2) a user interface dialog box.

16. A method for configuring a graphical user interface (GUI) element to display data during execution of a graphical program, the method comprising:

receiving user input specifying a data source;

automatically displaying a GUI element in a graphical user interface of the graphical program; and

automatically configuring the GUI element to receive and indicate data from the specified data source during execution of the graphical program.

17. The method of claim 16,

wherein said automatically displaying and said automatically configuring are performed in response to the user input specifying the data source.

18. The method of claim 16,

wherein said automatically displaying and configuring the GUI element comprise programmatically displaying and configuring the GUI element.

19. The method of claim 16, wherein the GUI element is automatically configured to receive and indicate data from the specified data source without user programming.

20. The method of claim 16, further comprising:

automatically determining an appropriate GUI element to display, based on the specified data source;

wherein said automatically displaying a GUI element comprises automatically displaying the determined GUI element.

21. The method of claim 20, further comprising:

receiving data from the data source in response to the user input specifying the data source;

wherein said determining an appropriate GUI element to display comprises automatically analyzing the received data and automatically determining a GUI element operable to indicate the received data.

22. The method of claim 21,

wherein the data is received in a self-describing format;

wherein said automatically determining a GUI element operable to indicate the received data comprises automatically determining a GUI element operable to indicate data of the self-described format.

23. The method of claim 16, wherein said receiving user input specifying the data source comprises receiving user input in response to a drag-and-drop user interface technique performed by the user.

24. A system for configuring a graphical program to publish or subscribe to a data target or data source, respectively, the system comprising:

a display device;

a processor;

a memory medium coupled to the processor, wherein the memory medium stores a first program;

wherein the processor is operable to execute the first program to:

receive user input specifying at least one of a data source or data target;

automatically configure the graphical program to perform at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

25. The system of claim 24, wherein said automatically configuring is performed in response to the user input specifying at least one of a data source or data target.

26. The system of claim 24, wherein said automatically configuring comprises programmatically configuring the graphical program.

27. The system of claim 24, wherein the graphical program is configured without user input.

28. The system of claim 24, wherein the graphical program includes a plurality of connected nodes, wherein the connected nodes visually represent functionality of the graphical program;

wherein said automatically configuring comprises automatically configuring one or more of the nodes to programmatically perform at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

29. The system of claim 24, wherein said automatically configuring comprises automatically including one or more nodes in a block diagram of the graphical program;

wherein, during execution of the graphical program, the one or more nodes are operable to perform one or more of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

30. The system of claim 29,

wherein the one or more nodes visually indicate performance of at least one of: 1) receiving data from the specified data source; and/or 2) publishing data to the specified data target.

31. A memory medium comprising program instructions operable to:

receive user input specifying at least one of a data source or data target;

automatically configure a graphical program to perform at least one of: 1) receive data from the specified data source; and/or 2) publish data to the specified data target.